

REMARKS

This Amendment is submitted in response to the Office Action mailed on July 23, 2010. Claims 18 and 23 have been amended, and claim 30 stands withdrawn pursuant to a restriction requirement raised by the Examiner. Claims 18-29, 31 and 32 remain pending in the present application. In view of the foregoing amendments, as well as the following remarks, Applicants respectfully submit that this application is in complete condition for allowance and requests reconsideration of the application in this regard.

Claims 18-27 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Wienand et al., U.S. Patent No. 6,712,987 ("*Wienand et al.*") in combination with Schiller, WO 01/00523 ("*Schiller*"), Tomonari et al., EP 0599364 ("*Tomonari et al.*"), Schieferdecker et al., U.S. Patent Application Publication No. 2003/0118076 ("*Schieferdecker et al. '076*") and/or Schieferdecker et al., U.S. Patent No. 6,294,787 ("*Schieferdecker et al. '787*"). Claims 28, 29, 31 and 32 stand rejected under 35 U.S.C. §103(a) as being unpatentable over the above combination and further in view of Fujikawa et al., U.S. Patent No. 6,548,813 ("*Fujikawa et al.*"). For the reasons set forth below, Applicants respectfully traverse these rejections and request that the outstanding rejections be withdrawn.

As the Examiner will note, Applicants have amended independent claim 18 to recite that the support comprises silicon and/or GaAs and/or a semiconductor material. This feature was originally recited in dependent claim 23.

With respect to the rejection of independent claim 18, the sole independent claim, the Examiner has applied the newly cited *Wienand et al.* reference and asserts that it discloses a “radiation sensor.” However, Applicants respectfully submit that this is not the case since *Wienand et al.* is directed instead to an electrical resistor that provides a temperature-dependent measuring resistance. Such resistors are entirely different than a radiation sensor as claimed since resistors are passive devices that require either a voltage or current to be applied for obtaining a temperature measurement. Radiation sensors, on the other hand, are active devices that generate a voltage upon radiation incidence.

The device of *Wienand et al.* is different in many respects to the radiation sensor recited in independent claim 18 since the substrate of the *Wienand et al.* device comprises metal which is in stark contrast to the silicon and/or GaAs and/or semiconductor material recited for the support in independent claim 18.

Additionally, the etching process in *Wienand et al.* is a wet chemical free etching, whereas independent claim 18 recites that the cavity is formed through dry etching.

Moreover, *Wienand et al.* teaches a rectangular cavity, whereas independent claim 18 recites a cavity having a round or oval contour.

For each of these independent reasons, Applicants respectfully submit that *Wienand et al.* actually teaches away from Applicants’ claimed invention as recited

in amended independent claim 18, and the other prior art of record fails to cure the glaring deficiency of *Wienand et al.*

With respect to the secondary *Schiller* reference, the Examiner assertion that *Schiller* etches a void having a shape with no proof mass retained within the void does not elude or suggest a cavity having a round or oval contour as recited in independent claim 18. *Schiller* is completely silent with regard to the shape of the void.

The Examiner turns to *Tomonari et al.* and asserts that this reference discloses in Fig. 59 a rounded corner or circular cavity. However, as previously argued by Applicants, when the *Tomonari et al.* reference is taken as a whole, it can be seen that *Tomonari et al.* teaches a cavity that, while having a generally circular shape at the top surface of the substrate, the side wall of the cavity is not essentially orthogonal to the support surface as recited in independent claim 18. Rather, it is conically-shaped. See, Col. 15, line 45 through Col. 16, line 16.

Lastly, as previously argued by Applicants, the *Schieferdecker et al.* '076 and '787 references are completely silent with respect to an etching stop layer that is formed between one surface of a support and the dielectric membrane provided on that one surface as recited in independent claim 18. Rather, *Schieferdecker et al.* '787 teaches use of the insulating layer (i.e., the membrane) as the etching stop to prevent punch through during back-side etching (see, *Schieferdecker et al.* '787 at Col. 6, lines 43-45). *Schieferdecker et al.* '076 teaches use of a protective layer with a minor

Application No. 10/555,713
Amendment Dated 11/23/10
Reply to Office Action of 7/23/10

etching rate that is applied to the bottom of the substrate and patterned photolithographically (see, *Schieferdecker et al.* '076 at Paragraph [0065]).

In view of the above, Applicants respectfully submit that the prior art of record fails to fairly teach or suggest the combination of elements recited in amended independent claim 18 and the rejection of this claim should be withdrawn.

Moreover, as claims 19-29, 31 and 32 depend from allowable independent claim 18, and further as each of these claims recites a combination of elements not fairly taught or suggested by the prior art of record, the rejections of these claims should be withdrawn as well.

CONCLUSION

In view of the foregoing response including the amendments and remarks, this application is submitted to be in complete condition for allowance and early notice to this affect is earnestly solicited. If there is any issue that remains which may be resolved by telephone conference, Examiner is invited to contact the undersigned in order to resolve the same and expedite the allowance of this application.

Please see the electronic fee calculation sheet for the charge in the amount of \$130 for the one month extension fee as required by 37 C.F.R. §1.17(a)(1). If any other fees are necessary, the Commissioner is hereby authorized to charge any underpayment or fees associated with this communication or credit any overpayment to Deposit Account No. 23-3000.

Application No. 10/555,713
Amendment Dated 11/23/10
Reply to Office Action of 7/23/10

Respectfully submitted,

WOOD, HERRON & EVANS, L.L.P.

A handwritten signature in black ink, appearing to read 'D. Brinkman', written over a horizontal line.

David H. Brinkman, Reg. No. 40,532

2700 Carew Tower
441 Vine Street
Cincinnati, OH 45202-2917
(513) 241-2324 – Voice
(513) 241-6234 – Facsimile